

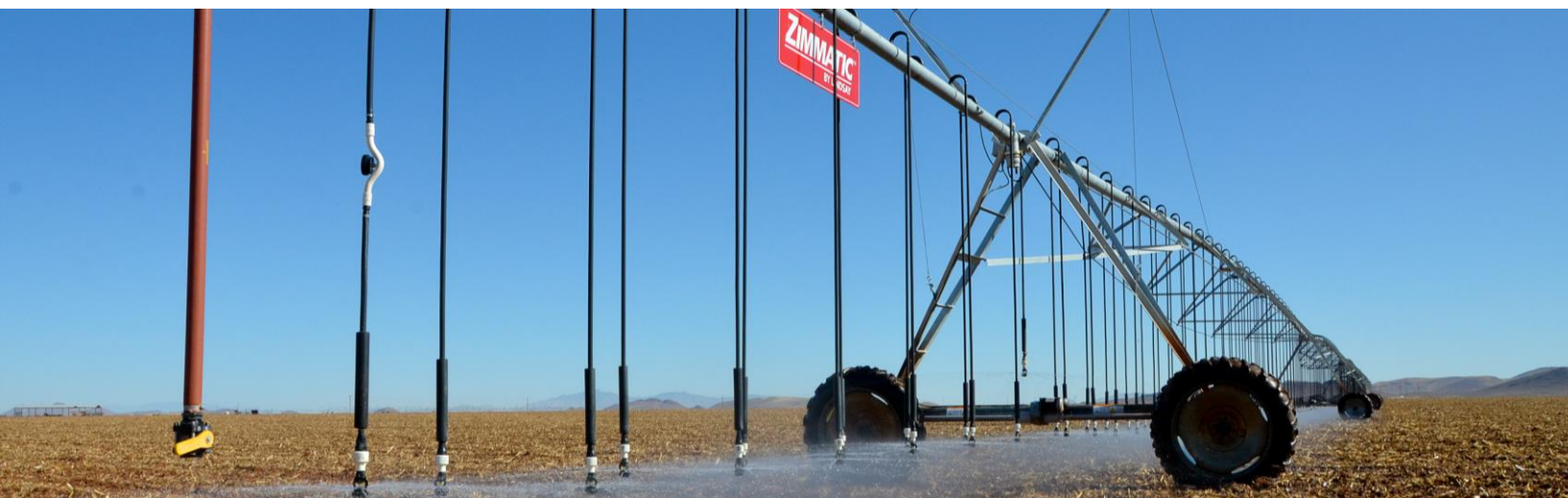


United States Department of Agriculture



Resource Stewardship Evaluation Tool (RSET)

Stand Alone Tools



Natural
Resources
Conservation
Service

nrcs.usda.gov/

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Stand Alone Tools Overview

The Stand Alone Tools tab allows optional override of some standard stewardship results with external tool results. The goal is to capture the most accurate characterization of stewardship. Optional override of standard stewardships results can be done on the Stand Alone Tools tab with the following options available:

- Erosion Tools (IET, RUSLE2, WEPS)
- Emissions Tool (COMET)
- Irrigation (FIRI)

The standard Evaluation Result must be completed in Resource Stewardship to access the Stand Alone Tools option. Once you click on the Stand Alone Tools box in the Roadmap, the Stand Alone Tools tab will also appear at the top of the page.

Client: ROSE LAKE PLANT MATTER

Use Alternate Result with Stand Alone Tools

Stand Alone Tools - Erosion

Online Help: Go to [Stand Alone Tools](#)

Instructions: In order to include a stand alone evaluation result, check the tool or RUSLE2/WEPS can be used, but Note the

Note: To Use the Alternate Result, all fields are required

Choose Evaluation

Inventory

Aquatic Habitat

Crop Rotation

WNPST (Optional)

Terrestrial Habitat

Conservation Practices

Nitrogen

Phosphorus

Evaluation Result

Stand Alone Tools

Alternate Result

Integrated Pest Management (IPM)

Use IET: --

Soil Loss Tolerance (T) Value - Water: tons/acre/year

Soil Loss Tolerance (T) Value - Wind: tons/acre/year

Soil Loss - Water: tons/acre/year

Soil Loss - Wind: tons/acre/year

Soil Conditioning Index (SCI):

Annual Soil Tillage Intensity Rating (STIR):

Assessment Date:

Stand Alone Tool Result vs. Standard Result?

While the result types from Stand Alone Tool results and standard results can both be viewed in the working context of an individual evaluation, only one can be chosen as the official evaluation result. The official result is used for comparisons, when included in the Operation Evaluation (OE), for reporting, and whenever one answer is needed. The default result type is Standard. To set the Stand Alone Tool result as the official result type, click the **Use Alternate Result with Stand Alone Tools as Official Evaluation Result** box.



Search

Inventory

Aquatic Habitat

Terrestrial Habitat

Crop Rotation

WINPST

Conservation Practices

Stand Alone Tools

Client: ROSE LAKE PLANT MATERIAL CENTER Land Unit: 11769/ 6 Evaluation Type: Benchmark

Use Alternate Result with Stand Alone Tools as Official Evaluation Result ☐

Erosion

Emissions

Irrigation

The official result type displayed (Standard or Alternate) can be found on the evaluation grids, roadmap, and final reports (see below for examples).

Search

Inventory

Aquatic Habitat

Terrestrial Habitat

Crop Rotation

WINPST

Conservation Practices

Client: ROSE LAKE PLANT MATERIAL CENTER

ROSE LAKE PLANT MATERIAL CENTER Evaluations: 11769/ 6

Client: ROSE LAKE PLANT MATERIAL CENTER

Land Unit: 11769/ 6 Land Use: Crop

Evaluation: Stand Alone Tools Alternate Result

Type: Alternate

Bench: N

Grazed: N

Client Name: ROSE LAKE PLANT MATERIAL CENTER

11769/ 6 Evaluations

Status	Result Type	Name	Land Use	Acres
<input checked="" type="checkbox"/>	Standard	Benchmark	Crop	5.01
<input checked="" type="checkbox"/>	Standard	Alt Scenario	Crop	5.01
<input checked="" type="checkbox"/>	Alternate	Stand Alone Tools Alternate Result	Crop	5.01

Rotation Crops

Status	Num.	Name	Yield
<input checked="" type="checkbox"/>	1	Field Grain Corn	202
<input checked="" type="checkbox"/>	2	Soybeans	73

Choose Evaluation

Operation Evaluation: OE Test

Evaluations

Status	Result Type	Name	Land Use	Acres	Benchmark	Date
<input checked="" type="checkbox"/>	Alternate	Stand Alone Tools Alternate Result	Crop	5.01	NO	08/22/2018

Page 1 of 1

Found: 1

es

Benchmark

Date

Id

01

NO

/2018

7447

Found: 1

Choose GOE Evaluation

☒

Grazing Management

Evaluation Result

Resource Stewardship – Stand Alone Tools


4


Conservation Practices x Evaluation Result x

Compare To Evaluation:

Evaluations					
Status	Result Type	Name	Land Use	Acres	Benchmark
<input checked="" type="checkbox"/>	Alternate	CW Orchard Plan	Crop	8.8	NO
<input checked="" type="checkbox"/>	Alternate	CW New Rotation	Crop	8.8	NO

Page 1 of 1





Evaluation: CW Benchmark Crops Evaluation Date: 06/09/2017
 Benchmark: YES Grazed: YES **Result Type: Standard**

Erosion Stand Alone Tool

1. Select the **Stand Alone Tools** tab, then select **Erosion**.

Inventory x Aquatic Habitat x Terrestrial Habitat x Crop Rotation x WINPST x
 Conservation Practices x Nitrogen x Phosphorus x IPM x Evaluation Result x
 Search x **Stand Alone Tools x**

Client: ROSE LAKE PLANT MATERIAL CENTER Land Unit: 11769/ 6 Evaluation Type: Planned
 Use Alternate Result with Stand Alone Tools as Official Evaluation Result ☒

Erosion Emissions Irrigation

2. Select **Yes** for the Erosion Stand Alone Tool that you would like to use and **No** for the tool(s) you do not want to use.





Note: Either IET or RUSLE2/WEPS can be used, but not both. Resource Stewardship auto updates "Use" answers to maintain this constraint. Data entered is still stored in RS, even when not in "use".

Stand Alone Tools - Erosion

Online Help: Go to [Stand Alone Tools - Erosion Help](#)

Instructions: In order to include a stand alone erosion tool's results in an Alternate evaluation result, check the tool's Use box below. Note that either IET or RUSLE2/WEPS can be used, but not both.
Note: To Use tool data in the Alternate Result, all fields are required.

IET

Use IET : **YES** 
 Value Water  **NO** 



3. Input the information from IET or RUSLE2/WEPS into the corresponding Resource Stewardship input boxes.

Stand Alone Tools - Erosion
Online Help: Go to [Stand Alone Tools - Erosion Help](#)

Instructions: In order to include a stand alone erosion tool's results in an Alternate evaluation result, check the tool's Use box below. Note that either IET or RUSLE2/WEPS can be used, but not both.
Note: To Use tool data in the Alternate Result, all fields are required.

IET

Use IET ☐: YES ▼

Soil Loss Tolerance (T) Value - Water tons/acre/year

Soil Loss Tolerance (T) Value - Wind tons/acre/year

Soil Loss - Water tons/acre/year

Soil Loss - Wind tons/acre/year

Soil Conditioning Index (SCI)

Annual Soil Tillage Intensity Rating (STIR)

Assessment Date

RUSLE2

Use RUSLE2 ☐: NO ▼

Soil Loss Tolerance (T) Value - Water tons/acre/year

Soil Loss - Water tons/acre/year

Soil Conditioning Index (SCI)

Annual Soil Tillage Intensity Rating (STIR)

Assessment Date

WEPS

Use WEPS ☐: NO ▼

Soil Loss Tolerance (T) Value - Wind tons/acre/year

IET Inputs

Use IET: Yes/No. Select Yes to use result in Alternative Evaluation

Soil Loss Tolerance (T) Value – Water: Number from 1 to 5

Soil Loss Tolerance (T) Value – Wind: Number from 1 to 5

Soil Loss – Water: Number from 0.01 to 99999.99 (two decimal places allowed)

Soil Loss – Wind: Number 0 to 200 (two decimal places allowed)

Assessment Date: MM/DD/YYYY

RUSLE2 Inputs

Use RUSLE2: Yes/No. Select Yes to use result in Alternative Evaluation



Soil Loss Tolerance (T) Value – Water: Number from 1 to 5

Soil Loss – Water: Number from 0.01 to 99999.99 (two decimal places allowed)

Soil Conditioning Index (SCI): Number from -20 to 20 (three decimal places allowed)

Annual Soil Tillage Intensity Rating (STIR): Number 0 to 2000 (two decimal places allowed)

Assessment Date: MM/DD/YYYY

WEPS Inputs

Use WEPS: Yes/No. Select Yes to use result in Alternative Evaluation

Soil Loss Tolerance (T) Value – Wind: Number from 1 to 5

Soil Loss – Wind: Number from 0 to 200 (two decimal places allowed)

Soil Conditioning Index (SCI): Number from -20 to 20 (three decimal places allowed)

Annual Soil Tillage Intensity Rating (STIR): Number 0 to 2000 (two decimal places allowed)

Assessment Date: MM/DD/YYYY

4. Check **Use Alternate Result with Stand Alone Tools as Official Evaluation Result** at the top of the page to use the Erosion Stand Alone Tool to replace the standard evaluation result.

Phosphorus	IPM	Evaluation Result	Search	Stand Alone Tools
Client: ROSE LAKE PLANT MATERIAL CENTER Land Unit: 11769/6 Evaluation Type: Planned				
Use Alternate Result with Stand Alone Tools as Official Evaluation Result <input checked="" type="checkbox"/>				

5. Click **Save**.

See below for sample reports and where to locate corresponding information from each type of report to enter into RS.



Sample IET report and corresponding RS entries

Assessment of Water and Wind Erosion, Soil Tillage Intensity, Organic Matter Trend, Air Particulate Matter and Fuel Use

Assessment Date: 2/13/2017

Management
 Crop Rotation: z16 Soybean STIR-2_4
 Fuel Type: Diesel

Average Annual Water Erosion
 Contouring: c. perfect contouring no row grade
 Strip / Barrier: (none)
 Hydraulic Elements: (none)
 Stripcropping: No
 Climate File: climates\USA\Indiana\Jay County

Soil Map Unit	Soil Component	Length (ft)	Slope Steepness (%)	Shape	Soil Loss (ton / ac / yr)	
					Tolerance	Simulated
Blount-Glymwood, thin solum complex, 0 to 3 percent slopes	Blount	200	1		3.0	0.30

Average Annual Wind Erosion
 Wind Region length: 1,175.9 Feet
 width: 1,254.8 Feet
 orientation: 0 Degrees From North
 Climate Station: BERNE IN
 Wind Station: Interpolated

Soil Map Unit	Soil Component	Biomass (ton/ac/yr)	Soil Loss (ton / ac / yr)	
			Tolerance	Simulated
Blount-Glymwood, thin solum complex, 0 to 3 percent slopes	Glymwood	1.0	3.0	0.0

Tillage Intensity, Air Particulates, Fuel Use, and Rotation Soil Organic Matter Trend

Annual Soil Tillage Intensity Rating (STIR):	2.4	Rotation Soil Conditioning Index (SCI):	0.35
Air Particulates (PM10):	0.0 ton / ac / yr	SCI Organic Matter (OM) Factor:	-0.40
Fuel Use:	2.6 gal / ac / yr	SCI Field Operation (FO) Factor:	1.0
		SCI Erosion (ER) Factor:	0.88

Corresponding RS entries

Use IET ☒ YES

Soil Loss Tolerance (T) Value - Water tons/acre/year

Soil Loss Tolerance (T) Value - Wind tons/acre/year

Soil Loss - Water tons/acre/year

Soil Loss - Wind tons/acre/year

Soil Conditioning Index (SCI)

Annual Soil Tillage Intensity Rating (STIR)

Assessment Date

Key data from IET reports can override the following RS Key Indicators:

- Wind erosion
- Water erosion



- Soil carbon

Sample RUSLE2 report and corresponding RS entries

Sample RUSLE2 report and corresponding RSET entries

RUSLE2 Profile Erosion Calculation Record

Owner/Operator: Tract: Field:

Inputs:

Location: USA\Nebraska\Kearney County

Soil: Nebraska Soils\Kearney County, Nebraska\4834 Valentine loamy fine sand, rolling\Valentine loamy fine sand 98%

Slope length (along slope): 150 ft

Avg. slope steepness: 6.0 %

Management	Vegetation	Yield units	# yield units, #/a
managements\CMZ 24\c.Other Local Mgt Records\corn soybean\100% NT, anhydrous	vegetations\Corn, grain	bushels	112.00
managements\CMZ 24\c.Other Local Mgt Records\corn soybean\100% NT, anhydrous	vegetations\Soybean, mw 30 in rows	bu	30.000

Contouring: a. rows up-and-down hill

Strips/barriers: (none)

Diversion/terrace, sediment basin: (none)

Adjust res. burial level: bury 30% more than normal

Outputs:

Date	Operation	Vegetation	Surf. res. cov. after op, %
4/20/0	Planter, double disk opnr w/fluted coulter	Corn, grain	44
10/20/0	Harvest, killing crop 50pct standing stubble		71
5/10/1	Planter, double disk opnr w/fluted coulter	Soybean, mw 30 in rows	57
10/10/1	Harvest, killing crop 50pct standing stubble		71

Soil loss for cons. plan: 0.53 t/ac/yr Sediment delivery: 0.53 t/ac/yr T value: 5.0 t/ac/yr

Soil conditioning index (SCI): 0.476
Avg. annual slope STIR: 2.59

Corresponding RS entries

Use RUSLE2	YES
Soil Loss Tolerance (T) Value - Water	5 tons/acre/year
Soil Loss - Water	.53 tons/acre/year
Soil Conditioning Index (SCI)	.476
Annual Soil Tillage Intensity Rating (STIR)	2.59
Assessment Date	06/20/2017



Key data from RUSLE2 reports can override the following RS Key Indicators:

- Water erosion
- Soil carbon

Sample WEPS report and corresponding RS entries

Run Summary



trial_4cal_3

Run Date:	Monday, November 02, 2015, 09:35 AM		
Client Name:	CSW RS Trial		
Farm No:	---	Tract No:	---
Run Location:	Field No:1		
Management:			
Soil:	Valentine_4834_100_LFS.ifc		

Location Site Information			
	X-Length:	2591.2 ft	Mode: NRCS
	Y-Length:	2380.6 ft	Soil Loss Tolerance (T): 5.0 t/ac/yr
	Area:	141.6 ac	Site: UNITED STATES
	Elevation:	2339.2 ft	NEBRASKA
	Orientation:	0.0 °	KEARNEY
	Location:		
Cligen:			
Windgen:			

Erosion						
Period	Crop/Residue	Gross Loss	Net Soil Loss			
		t/ac	Total	Creep/Salt		
Rot. year: 1	Corn, grain	0.0	0.0	0.0	0.0	0.00
Rot. year: 2	Soybean, group II, III and IV	0.0	0.0	0.0	0.0	0.00
Ave. Annual		0.0	0.0	0.0	0.0	0.00

Crop Interval Erosion						
Date Range	Days	Crop	Gross Loss	Net Soil Loss From Field (t/ac)		
			t/ac	Total	Creep/Salt	Suspen. PM10
Oct 06, 02 - Oct 01, 01	362	Corn, grain	0.0	0.0	0.0	0.0 0.00
Oct 02, 01 - Oct 05, 02	369	Soybean, group II, III and IV	0.0	0.0	0.0	0.0 0.00

Harvests				
Date	Crop	Residue lb/ac	Harvest Yield	Yield % Moisture
Oct 01, 01	Corn, grain	5,070	88.6 bu/ac	15.5
Oct 05, 02	Soybean, group II, III and IV	3,021	34.1 bu/ac	13.0

Barriers				
Location	Type	Height ft	Width ft	Porosity %
North	Peren Grass Barrier 1 row	2.6	1.6	70.0
East	Peren Grass Barrier 1 row	2.6	1.6	70.0


Printed Monday, Nov 2, 2015



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Run Summary



Natural Resources
Conservation Service

trial_4cal_3

Barriers

Location	Type	Height ft	Width ft	Porosity %
South	Peren Grass Barrier 1 row	2.6	1.6	70.0
West	Peren Grass Barrier 1 row	2.6	1.6	70.0

SCI Summary

Soil Conditioning Index:	0.4	SCI Subfactors	
Energy Calculator:	1.9 gal diesel/ac	OM:	-0.25
Average Annual STIR:	4.5	FO:	0.96
Wind Erosion Soil Loss:	0.0 t/ac	ER:	0.79
Water Erosion Soil	0.5 t/ac		

Rotation Stir Energy

Date	Operation	Fuel	Stir	Energy Btu/ac	Cost USD/ac
May 01, 01	Planter, double disk opnr	Diesel	2.4	53,881	1.54
Oct 01, 01	Harvest, killing crop 50pct standing stubble	Diesel	0.1	187,386	5.36
May 10, 02	Drill or airseeder, double disk	Diesel	6.3	44,152	1.26
Oct 05, 02	Harvest, killing crop 50pct standing stubble	Diesel	0.1	187,386	5.36
Total / ac				472,805	13.51
Total			9.1	66,954,372	1,913.55

Crop Interval Stir Energy

Date Range	Crop	Stir	Energy Btu/ac	Cost USD/ac
Oct 06, 02 - Oct 01, 01	Corn, grain	2.6	241,267	6.90
Oct 02, 01 - Oct 05, 02	Soybean, group II, III and IV	6.5	231,538	6.62

Notes

Corresponding RS entries

Use WEPS ⓘ:

YES ▾

Soil Loss Tolerance (T) Value - Wind ⓘ:

5

tons/acre/year

Soil Loss - Wind ⓘ:

0

tons/acre/year

Soil Conditioning Index (SCI) ⓘ:

.4

Annual Soil Tillage Intensity Rating (STIR) ⓘ:

4.5

Assessment Date ⓘ:

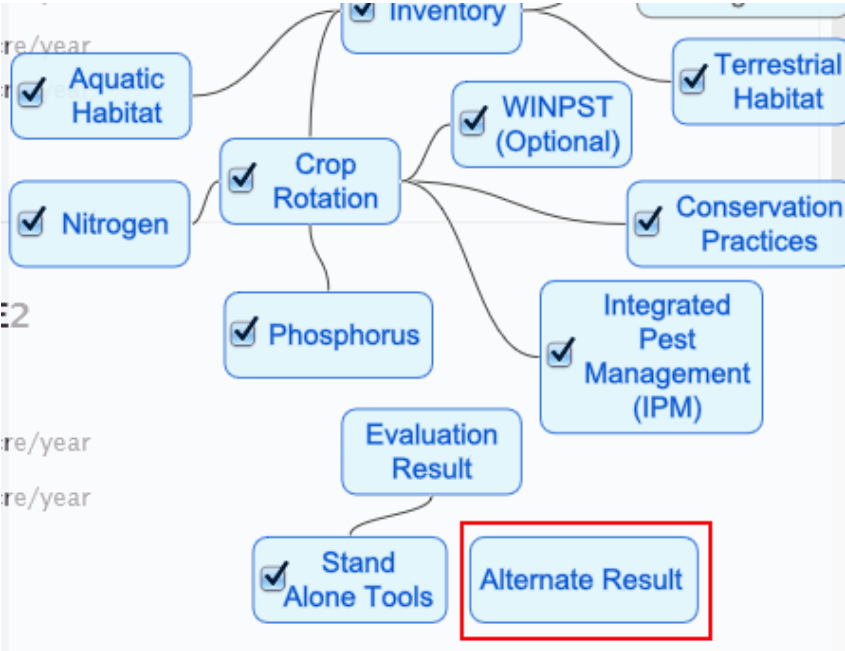
11/02/2015



Key data from WEPS reports can override the following RS Key Indicators:

- Wind erosion
- Soil carbon

6. Click the **Roadmap** and select **Alternate Result** to view the evaluation.



Below is an example of what the final evaluation looks like when the IET Stand Alone Tool is utilized instead of the standard Resource Stewardship results.



Emissions Stand Alone Tool

COMET-farm results can be used as a Stand Alone Tool evaluation result in RS to evaluate emissions.

1. Select the **Stand Alone Tools** tab, then select **Emissions**.

The screenshot shows the 'Stand Alone Tools' tab selected in the top navigation bar. Below it, the 'Emissions' sub-tab is active. The form is titled 'Stand Alone Tool - Emissions' and includes a link to 'Online Help: Go to Stand Alone Tool - Emissions Help'. The 'Instructions' section states: 'In order to include COMET-farm results in an Alternate evaluation result, check 'Use COMET-farm' box below.' The 'Note' section states: 'To Use tool data in the Alternate Result, all fields are required.' The form contains the following fields: 'Use COMET-farm' (a dropdown menu with 'Yes' selected), 'CO2 Emissions' (a text box with 'tonnes/yr' unit), 'N2O Emissions' (a text box with 'tonnes CO2 equivalent/yr' unit), 'Total Emissions All Parcel' (a text box with 'tonnes CO2 equivalent/yr' unit), 'COMET acres' (a text box with 'acres' unit), and 'Assessment Date' (a date picker). A 'Save' button is located at the bottom right of the form.

2. Answer the corresponding questions based on the COMET-farm report.

COMET-farm Inputs

Use COMET-farm: Yes/No. Select Yes to use result in Alternative Evaluation

CO2 Emissions: Number from -10000 to 10000 (three decimal places allowed). Unit is tonnes CO2 equivalent/yr.

N2O Emissions: Number from -10000 to 10000 (three decimal places allowed). Unit is tonnes CO2 equivalent/yr.

Total Emissions All Parcel: Number from -10000 to 10000 (three decimal places allowed). Unit is tonnes CO2 equivalent/yr.

COMET acres: Number from 0.01 to 100000 (two decimal places allowed). Unit is tonnes CO2 equivalent/yr. Unit is acres.

Assessment Date: MM/DD/YYYY

3. If you want to use the Emissions Stand Alone Tool to replace the standard evaluation result, check **Use Alternate Result with Stand Alone Tools as Official Evaluation Result** at the top of the page.



Stand Alone Tools

Client: ROSE LAKE PLANT MATERIAL CENTER Land Unit: 11769/6 Evaluation Type: Planned
Use Alternate Result with Stand Alone Tools as Official Evaluation Result ☒

Erosion Emissions Irrigation

4. Click **Save**.

Below is an example of a COMET-farm report and the RS corresponding entries.

COMET Farm

United States Department of Agriculture
Natural Resources Conservation Service

Colorado State University

Whole Farm or
Carbon and Gr
Accounting Sy:

Step 1
Activities

Step 2
Field Management

Step 3
Animal Agriculture

Step 4
Report

Cropland, Pasture, Range

Cropland Graphical Report

Animal Agriculture

Animal Agriculture Graphical Report

NAME:
PRO:

Report type

Source	Baseline Emissions	Test 1		Test2	
		Emissions	Change	Emissions	Change
F1 (215 acres) - Winter Wheat					
C (tonnes CO ₂ equiv./yr.)	-59.9	-121.3	-61.4	-121.3	-61.4
CO ₂ (tonnes/yr.)	0.0	0.0	0.0	0.0	0.0
CO (tonnes CO ₂ equiv./yr.)	0.0	0.0	0.0	0.0	0.0
N ₂ O (tonnes CO ₂ equiv./yr.)	95.2	87.9	-7.3	87.9	-7.3
CH ₄ (tonnes CO ₂ equiv./yr.)	0.0	0.0	0.0	0.0	0.0
Total	35.3	-33.5	-68.8	-33.5	-68.8
Total (all parcels)					
	35.3	-33.5	-68.8	-33.5	-68.8

RS corresponding entries.



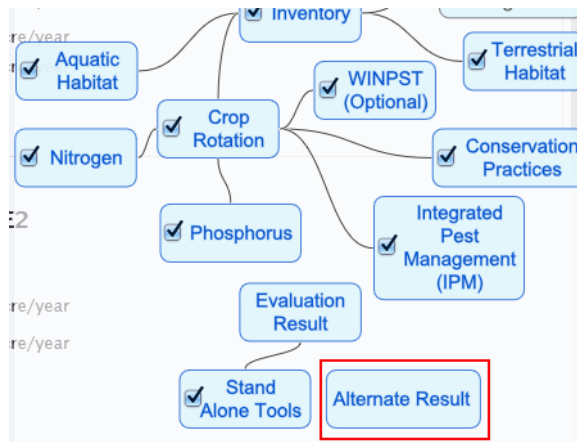
Use COMET-farm	YES
CO2 Emissions:	0 tonnes/yr
NO2 Emissions:	95.2 tonnes CO2 equivalent/yr
Total Emissions All Parcel:	35.3 tonnes CO2 equivalent/yr
COMET acres:	215 acres
Assessment Date	02/21/2017

Data from COMET-farm reports can override the following Resource Stewardship Air Quality Key Indicators:

- Soil Carbon
- Nitrogen Loss to Air

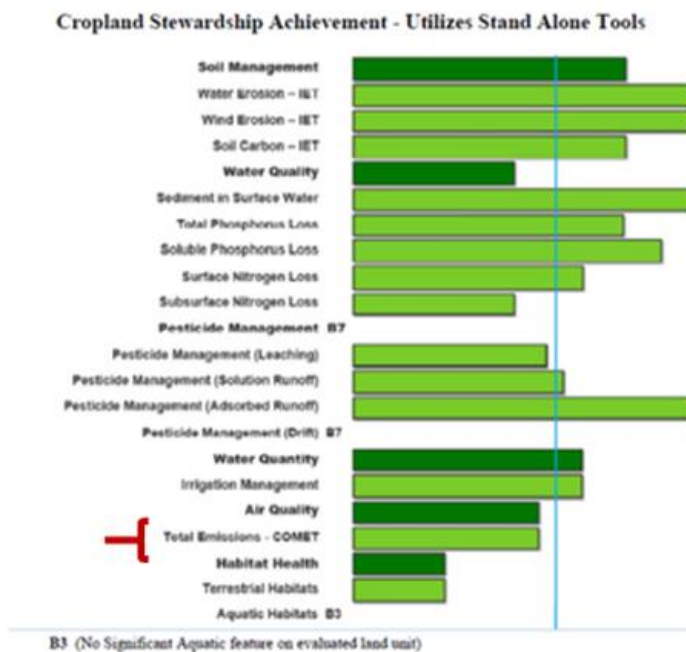
These two Key Indicators will be replaced with one new Key Indicator: Total Emissions – COMET (see below for example). If both an erosion tool and COMET are used, always give precedence to COMET results under Air Quality.

5. Click the **Roadmap** icon to open the Roadmap and select **Alternate Result** to view the evaluation.



Negative emissions are a good thing (over the threshold). Likewise, positive emissions are bad (below the threshold). The total emissions number is always across full acreage.





Irrigation Stand Alone Tool

Rather than running FIRI in the Irrigation Management tab, externally run National FIRI results or state irrigation tool results can be entered into Resource Stewardship in the Stand Alone Tools tab.

1. Select the **Stand Alone Tools** tab, then select **Irrigation**.

Stand Alone Tools

Client: ROSE LAKE PLANT MATERIAL CENTER Land Unit: 11769/ 6 Evaluation Type: Planned
 Use Alternate Result with Stand Alone Tools as Official Evaluation Result ☒

Erosion **Emissions** **Irrigation**

Stand Alone Tool - Irrigation

Online Help: Go to [Stand Alone Tool - Irrigation Help](#)

Instructions: In order to include a stand alone irrigation tool's results in an Alternate evaluation result, check the 'Use Irrigation' box below. Note that irrigation data is only usable when the PLU Inventory Max Irrigation is greater than 0.

Note: To Use tool data in the Alternate Result, all fields are required.

Use Stand Alone Irrigation Tool ☒

Irrigation Tool Type:

Irrigation system efficiency: %

Assessment Date

Save

2. Answer the corresponding questions.



Stand Alone Irrigation inputs

Use Stand Alone Irrigation Tool: Yes/No. Select Yes to use result in Alternative Evaluation

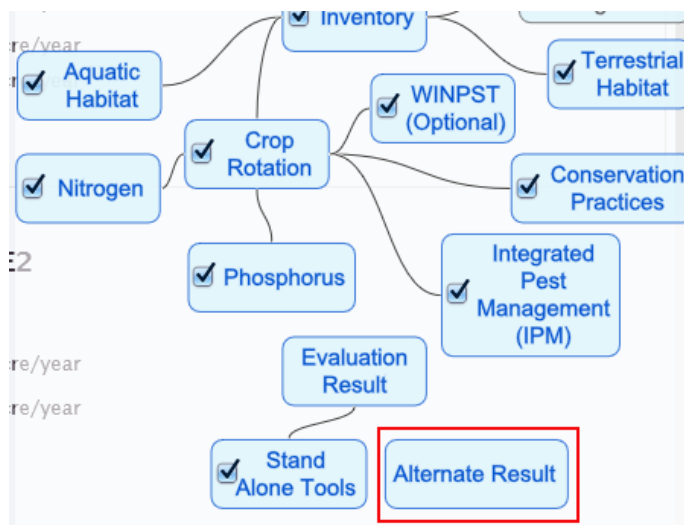
Irrigation Tool Type: Select National FIRI or State Irrigation Tool

Irrigation system efficiency: Percentage from 1 to 100

Assessment Date: MM/DD/YYYY

3. Click **Save**.

4. Click the **Roadmap** icon to open the Roadmap and select **Alternate Result** to view the evaluation.



Below is an example of what the final evaluation looks like when the Irrigation Stand Alone Tool is utilized instead of the standard Resource Stewardship result.



Cropland Stewardship Achievement - Utilizes Stand Alone Tools



B3 (No Significant Aquatic feature on evaluated land unit)

B7 (Per the evaluation of input data, no stewardship points were identified for this result area)





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